Town of Fountain Hills
Building Safety Department
One- and Two-Family
Residential Plan Check Report

Based upon the 2003 edition of the International Residential Code (IRC)

APPLICANT COPY

TOWN COPY

To check the status of building permit applications or obtain this form or other useful information on line, visit http://fh.az.gov/ComDev/BuildingSafety/

PLAN CHECK NUMBER **ADDRESS** **DATE**

Reviewed by: ☐ Jason Field, Plans Examiner (480) 816-5127 E-Mail: jfield@fh.az.gov

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Revised Fees: Building Permit-$0.45/sq.ft. Plan Review-$0.30/sq.ft. Total-$0.75/sq.ft. for total area under roof

Development Fees: Single-Family Dwelling Unit - $3,495.00 Each Multi-Family Dwelling Unit - $3,212.00

INSTRUCTIONS:

- ☐ **Conditional Approval.** Plans are approved, subject to the items checked on this checklist. This checklist is an integral part of the approved plans. All items contained on the list are minimum code requirements and must be complied with if your construction is to receive inspection approvals. The items that are circled are those that are found to be especially applicable to your plans. Items may also be circled to remind you of an important code requirement. Every effort has been made to note all necessary corrections during our plan review. However, it is ultimately the responsibility of the builder to perform the construction according to the minimum code requirements, regardless of whether or not items are circled. Approval of the plans does not permit the violation of any part of the Town of Fountain Hills Code.

- ☐ **Resubmittal Required.** Plans must be revised and resubmitted for review. Please note the items marked on this list and/or noted on the plans for required revisions or for the submittal of additional information

We encourage questions at any time. The person in Building Safety who reviewed your plans is noted above and you may contact him to discuss the plan review comments.

Inspection Notes:

The approved plans, along with this list, must be available to the building inspector on the site at the time when inspections are performed. Failure to have the plans, stamped ”approved,” on site at the time of inspection may result in the following:

- No inspection being performed or approved;
- A re-inspection fee for the amount of $70.50 paid at the Building Safety office prior to scheduling a follow up inspection
- Unnecessary delays to your construction.

TABLE R301.2 (1)

CLIMATE AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND SPEED (mph, 3-sec. gust)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost line depth	Termite	Decay					
0 psf	**90**	**B**	**Negligible**	**12”**	**Moderate to Heavy**	**None to Slight**	**34° F.**	**No**	**Varies**	**0**	**69° F.**

Fire Code Amendments. Amendments to the adoption of the International Fire Code (IFC), including automatic fire sprinkler system requirements, are available from the Fountain Hills Fire Department.

PLAN REVIEW COMMENTS: The following items briefly summarize the minimum code requirements of the International Residential Code (IRC). For detailed requirements, and, in some cases, exceptions, to the code requirements listed below, please refer to the code sections that are cited in the right hand column.

No.	Sheet Number(s)	Description of Minimum Code Requirement	Code Reference
Administration & General Submittal Requirements			**Chapter 1**
1.		**Project description.** Identify and describe the work to be covered by the permit for which application is made.	R105.3 (1.)
2.		**Separate permits.** Fences, retaining walls, swimming pools and spas are to be by separate permit. Fountain Hills Fire Department approval is required for propane tank installations.	
3.		**Address and legal description.** Indicate on the drawings the correct and complete address and the legal description.	R105.3 (2.)
4.		**Setbacks.** Indicate the location of the proposed building on the lot, including dimensioned distances from property lines and any other building(s) on the lot.	R106.2
5.		**Square footage summary.** Provide a square footage summary for each of the following: livable, garage, and covered patios and porches.	R108.3
6.		**Plans.** Provide **three** engineered site plans and **two** sets of construction drawings with a maximum sheet size of 24" x 36. The preferred scale is 1/4" = 1'-0," but a scale of 3/16" = 1'-0" may be accepted. Indicate the scale and provide a North arrow.	R106
7.		**Framing plans.** Provide complete floor and roof framing plans. Specify size and spacing of all framing members. Indicate all post locations and sizes, holddowns, headers, beams, etc.	R106
8.		**Details and notes.** Delete or cross out details or notes that do not apply or are not used.	
9.		**Engineering.** Engineering, such as a lateral analysis for shear, when required, shall be sealed, signed and dated by an architect or engineer registered in the state of Arizona in accordance with the applicable state statutes.	R106.1
10.		**Special inspection.** Special inspection is required for this project. Please complete the attached forms and return them to Building Safety with other resubmittal documents.	R106.1
11.		**Manufacturer's installation instructions.** Manufacturer's installation instructions, as required by this code for items such as gas fireplaces, gas logs and other listed appliances, components or specialized systems, shall be available on the job site at the time of inspection.	R106.1.2
12.		**Energy conservation items.** Please provide information regarding the "Energy Efficiency" items that are located on page 8 of this document. Be sure to include a window versus exterior wall area worksheet and resulting window percentage, note the R-values of insulation to be installed on the plans, and provide notes and/or details that indicate compliance with other energy conservation requirements.	R106.1.1
Building Planning			**Chapter 3**
13.		**Minimum glazed openings areas.** All habitable rooms shall be provided with aggregate glazing area of not less than 8 percent of the floor area of such rooms. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated. See Section R303 for details and exceptions.	R303.1
14.		**Area and height.** Label and dimension all rooms and spaces. Note ceiling height of all rooms and areas.	R304 R305
15.		**Bathroom light and ventilation.** Provide bathrooms or water closet compartments with 3 sq. ft. of window area, one-half of which must be openable, or provide artificial light and mechanical ventilation at a rate of at least 50 cfm intermittent or 20 cfm continuous.	R303.3
16.		**Toilet, bath and shower spaces.** Provide 15" clearance from centerline at sides and 21" in front of water closet and space other fixtures in accordance with Figure R307.2.	R307 Figure R307.2

No.	Sheet Number(s)	Description of Minimum Code Requirement	Code Reference
17.		**Safety glazing.** Provide safety glazing at the following hazardous locations: ❑ In swinging doors except jalousies, storm doors and unframed swinging doors. ❑ In fixed and sliding panels of sliding doors and panels in sliding and bi-fold closet doors. ❑ In doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers where the bottom edge of the glazing is less than 60” measured vertically above any standing or walking surface. ❑ Adjacent to a door where the nearest vertical edge is within a 24-inch arc of the door in a closed position and whose bottom edge is less than 60” above the floor. ❑ When all of the following exist: area of a pane is greater than 9 sq. ft., bottom edge is less than 18” above the floor and top edge is greater than 36” above the floor and one or more walking surfaces are within 36” horizontal. ❑ In railings. ❑ In walls and fences enclosing indoor and outdoor swimming pools, hot tubs and spas where bottom edge is less than 60” above walking surface and within 60” horizontally of the water’s edge. ❑ Adjacent to stairways, landings and ramps within 36” horizontally of a walking surface and less than 60” above the walking surface. ❑ Adjacent to stairways within 60” horizontally of the bottom tread and less than 60” above the nose of the tread.	R308 Table 308.3 R308.4 (1)(3)(4) R308.4 (2) R308.4 (5) R308.4 (6) R308.4 (7) R308.4 (8) R308.4 (9) R308.4 (10) R308.4 (11)
18.		**Garage-dwelling opening protection:** ❑ **Doors.** Must be at least 1-3/8”-thick solid wood or solid or honeycomb steel or 20-minute fire-rated doors. ❑ **Ducts.** Minimum No. 26 gauge sheet steel or other approved material with no duct openings into the garage (or provide listed dampers). ❑ **Sleeping rooms.** Openings from a private garage directly into a room used for sleeping are prohibited.	R309.1 R309.1 R309.1.1 R309.1
19.		**Garage-dwelling separation.** Separate garage from residence and its attic by 1/2” gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable spaces by 5/8” Type `X’ gypsum board. Structural elements supporting such a floor-ceiling assembly shall be protected by 1/2” gypsum board.	R309.2
20.		**Garage and carport floors.** Garage floor surfaces must be approved noncombustible materials, with floors sloped to facilitate drainage to a floor drain or the main vehicle entry doorway.	R309.3 R309.4
21.		**Emergency escape and rescue.** Every sleeping room and basements with habitable space shall have a least one window with minimum 5.7 sq. ft. net clear opening (5.0 sq. ft. at grade floor), minimum opening width of 20”, minimum opening height of 24" and a sill height not more than 44"; or provide an exterior door for emergency egress.	R310
22.		**Window wells.** Egress windows with finished sill heights located below the adjacent ground level must be equipped with approved window wells (9 sq. ft. and 36” minimum dimension) and, where wells have a vertical depth greater than 44,” have permanent ladders or steps.	R310.2 and R310.2.1
23.		**Under stair protection.** Enclosed accessible space under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with ½” (12.7 mm) gypsum board.	R311.2.2
24.		**Landings at doors.** There shall be a floor or landing on each side of each exterior door. The width of the landing shall not be less than the door served with a minimum dimension of 36" measured in the direction of travel. See Section R311.4.3 for details and exceptions to this requirement.	R311.4.3
25.		**Stair requirements.** Stairways shall meet the following requirements: ❑ **Width.** 36” minimum with handrails allowed to project up to 4.5 inches into the minimum width on either side. ❑ **Headroom.** Not less than 6 ft. 8 in. measured vertically from the plane across the tread nosings or from the floor surface of the landing or platform.	R311.5 R311.5.1 R311.5.2

No.	Sheet Number(s)	Description of Minimum Code Requirement	Code Reference
		Stair requirements, continued. ❑ **Treads and risers.** Maximum riser height is 7-3/4 inches. Minimum tread depth is 10 inches. Variation may not exceed 3/8 inch. Nosings of ¾" – 1¼" must be provided on solid stairs. See R311.5.3 for details & exceptions. ❑ **Winder treads.** Winder treads shall have a minimum tread depth of 10 inches measured 12" from the side where the treads are narrowest, with a minimum tread depth of 6" at any point and no more than 3/8" variation. ❑ **Landings at stairways.** Provide a floor or landing at the top and bottom of each stairway and so that vertical rise does not exceed 12 ft. between landings. Landings are not required at interior stairs, provided a door does not swing over the stairs. The width of the landing shall not be less than the door served, with a minimum dimension of 36" measured in the direction of travel. ❑ **Handrails.** Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers. Height shall be 34" - 38" above the nosings of the treads. Handrail grip shall be as per R311.5.6.3. ❑ **Spiral stairways.** Spiral stairways shall have a minimum width of 26," 7.5" minimum tread depth at 12" in from the narrower edge, all treads identical, 9" maximum rise and 6'-6" minimum headroom.	R311.5.3.1 and R311.5.3.2 R311.5.3.2 R311.5.4 R311.5.6 R311.5.8.1
26.		**Guards (guardrails).** Where porches, balconies or raised floors are more than 30" above the floor or grade below, provide a guard that is: ❑ 36" in height. ❑ For open sides of stairs with more than 30" drop, guard height may be 34" above the nosings of the treads. ❑ Porches & decks enclosed with insect screening with drop > 30" require guards. ❑ Openings in guards may not allow the passage of a 4-inch-diameter sphere. ❑ Triangular opening of stair riser, tread & guard may not allow 6-inch sphere. ❑ Openings for required guards on sides of stair treads may not allow a 4-3/8"-diameter sphere to pass through.	R312 R312.1 R312.2
27.		**Smoke alarms.** Provide interconnected smoke alarms in each sleeping room, outside each sleeping room and on each story. Smoke alarms shall receive primary power from building wiring (be "hard-wired") with battery backup.	R313.1
28.		**Alterations, repairs and additions.** When interior alterations requiring a permit occur, or one or more sleeping rooms are added, the dwelling shall be provided with smoke alarms as for new dwellings. See Sections R313.1.1 and R313.2 for details and exceptions.	R313.1.1 and R313.2
29.		**Dwelling unit separation.** For duplexes (two-family dwellings) or townhouses, dwelling units must be separated by 1-hour fire-resistant construction, two 1-hour fire-resistant walls or one 2-hour fire-resistance-rated wall, depending on the circumstances. See Section R317 for detailed requirements and exceptions.	R317
30.		**Back to back boxes.** Outlet boxes on opposite sides of a fire-resistive wall must be separated by a distance of at least 24" or by other approved methods as noted in Exception 2.	R317.3.2
31.		**Field treatment.** Field cut ends, notches and drilled holes of pressure preservatively treated wood shall be retreated in the field in accordance with AWPA M4.	R320.3.1
32.		**Premises identification.** Approved numbers or addresses shall be provided so as to be readily visible from the street fronting the property.	R321
33.		**Automatic fire sprinkler system.** All new dwelling units as well as additions exceeding 50% of the gross area of the existing structure are to be protected by an automatic fire sprinkler system installed throughout the structure. Please contact the Fountain Hills Fire Department for details, exceptions and additional requirements.	IFC 903.2.7 IFC 903.3.7.2 (as amended)

No.	Sheet Number(s)	Description of Minimum Code Requirement	Code Reference
Foundations			**Chapter 4**
34.		**Compaction testing reports required.** Where footings will bear on compacted fill material, the compacted fill shall comply with the provisions of an approved report prepared by a soils engineer or civil engineer.	R401.2 & R403.1
35.		**Level footings.** Provide note: "Top of footings shall be level. Bottom of footings are permitted to be sloped not to exceed 10%. Footings shall be stepped where ground slopes more than 10%."	R403.1.5
36.		**Retaining walls.** Indicate location and height of all retaining walls and provide engineering.	R404.1.3
37.		**Drainage.** Surface drainage shall be diverted so as to not cause a hazard. Lots shall be graded so as to drain surface water away from foundation walls a minimum of six (6) inches within the first ten (10) feet.	R401.3
38.		**Concrete strength.** Specify concrete strength on plans.	R402.2 Table R402.2
39.		**Soil bearing pressure.** Note type of soil and soil bearing pressure used in design of footings.	R401.4.1 Table R401.4.1
40.		**Footing dimensions.** Dimension footing width, thickness, and depth into undisturbed soil.	R403
41.		**Stem wall dimensions.** Dimension stem wall thickness.	R404, Table R404.1.1(1)
42.		**Anchor bolts.** Foundation plates and sills shall be attached to the foundation, at a minimum, with ½" bolts spaced not more than six (6') feet apart and embedded at least seven (7") inches into concrete or masonry. Engineering for alternate anchor bolt sizes and spacing may also be provided.	R403.1.6
43.		**Treated wood.** Specify foundation grade redwood or approved pressure treated foundation plates and sills for all plates in contact with concrete.	R319.1
44.		**Footing pads or piers.** Specify pad or pier sizes and provide foundation sections.	R403.1.1
45.		**Horizontal reinforcement.** Detail at least one (1) #4 bar in top of footing and one (1) #4 bar in top of stem wall on all wall sections.	R403.1.3.2
46.		**Vertical reinforcement.** Provide #4 dowels at minimum of 48" o.c. from footing to stem.	Table R404.1.1(2)
47.		**Treated columns.** Columns and posts subject to water splash require 6" above earth or 1" above concrete or installation of pressure treated wood or wood of natural resistance to decay.	R319.1.3 R319.1.4
48.		**Holdowns.** Required holdowns, or tie-down devices, at exterior posts, columns, and walls, as specified on the lateral design or as required for all alternate braced wall panels, shall be shown on the foundation plan.	
49.		**Structural engineering.** Basement walls, stem walls over 4 feet high and stem walls restraining more than 2 feet of earth are required to be designed and stamped by a qualified, Arizona-licensed architect or engineer.	TOFH Ordinance 03-12
Floors			**Chapter 5**
50.		**Allowable joist spans.** Specify floor joist species, grade, size, spacing and spans to conform with Tables R502.3.1(1), R502..3.1(2), R502.3.3(1) and R502.3.3(2).	R502.3
51.		**Joists under bearing partitions.** Joists under parallel bearing partitions shall be of adequate size to support the load. Double joists that are separated to permit installation of piping or vents shall be full depth solid blocked by 2 X lumber spaced not more than 4 ft. apart. Bearing partitions perpendicular to floor joists shall not be offset from supporting girders or walls by more than the joist depth unless joists are sized to carry the additional load.	R502.4
52.		**Floor systems.** Joists framing from opposite sides over a bearing support to lap a min. of 3" and be nailed with min. of three (3) 10d nails or equivalent wood or metal splice.	R502.6.1

No.	Sheet Number(s)	Description of Minimum Code Requirement	Code Reference
53.		**Lateral restraint at supports.** Joists shall be supported laterally at the ends by full depth solid blocking, by attachment to a header or rim joist, or by other approved means. I-joists shall be supported laterally as required in the manufacturer's installation instructions.	R502.7
54.		**Drilling and notching.** Drilling and notching of joists shall not exceed the limits specified in R502.8, Figure R502.8, or, in the case of engineered wood products, such as I-joists, the limits specified in the applicable engineering and/or manufacturer's instructions.	R502.8
55.		**Wood structural panel sheathing.** Floor sheathing is to be sized in accordance with Tables R503.2.1.1(1) and R503.2.1.1(2) and fastened according to Table R602.3(1) (6" o.c. on edges and 12" o.c. at intermediate supports) unless noted otherwise on the approved plans.	R503.2 R503.2.3
Wall Construction (see also separate wall bracing ("shear") handout)			Chapter 6
56.		**Stud size, height and spacing.** For bearing walls, laterally unsupported stud height may not exceed 10 feet unless an engineered analysis is provided. 2 X 4s @ 16" o.c. or 2 X 6s @ 24" o.c. may be used for bearing walls for structures of up to 2 stories as long as the 10- ft. unsupported height is not exceeded.	R602.3.1 Table R602.3(5)
57.		**Headers.** Indicate the size of all headers, which are to be sized in accordance with Tables R502.5(1) and R502.5(2) or calculations prepared by an Arizona-licensed architect or engineer.	R602.7, Tables R502.5(1), R502.5(2)
58.		**Fireblocking required.** Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective barrier between stories, and between a top story and the roof space. Fireblocking shall be provided in the following locations: ❑ In concealed spaces of stud walls, including furred spaces and parallel rows of studs or staggered studs, vertically at ceiling and floor levels, and horizontally at intervals not exceeding 10 feet. ❑ At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings. ❑ In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with R311.2.2. ❑ At openings around vents, pipes and ducts at ceiling and floor level. ❑ At cornices for two-family dwellings at the line of dwelling unit separation. ❑ **Chimney fireblocking.** All spaces between chimneys and floors and ceilings through which chimneys pass shall be fireblocked with noncombustible material securely fastened in place.	R602.8 R1001.16
59.		**Wall bracing.** See R602.10, Tables R602.10.1 and R602.10.5, Figure R602.10.5, Table R602.10.11 and Figure R602.11.3 for prescriptive wall bracing and alternate braced wall panels requirements. See the item immediately below for buildings that cannot meet these prescriptive requirements for conventional light-frame structures.	R602.10
60.		**Lateral analysis required.** Structure does not meet requirements for use of prescriptive braced wall panels (R602.10.3) or alternate braced wall panels (R602.10.6). Please submit a lateral analysis prepared by an Arizona-licensed architect or engineer and transfer the resulting specifications from the analysis to the foundation, framing and floor plans, details, etc.	R602.10.10
Wall Covering			Chapter 7
61.		**Gypsum backer.** Water-resistant gypsum backer board at showers or tubs may be used on ceilings only if framing spacing does not exceed 12" o.c. for 1/2"-thick board or 16" o.c. for 5/8"-thick board. Water-resistant gypsum board shall not be installed over a vapor retarder in shower or tub compartments.	R702.4.2

No.	Sheet Number(s)	Description of Minimum Code Requirement	Code Reference
62.		**Weather-resistant sheathing paper.** Asphalt-saturated felt, free from holes and breaks, weighing not less than 14 lbs./100 sq. ft., shall be applied over studs or sheathing of exterior walls as per Table R703.4. Apply horizontally and overlap at least 2" (6" at vertical joints).	R703.2 Table R703.4
63.		**Flashing.** Approved corrosion-resistant flashing shall be provided at all of the following locations: ❑ At top of all exterior window and door openings; ❑ At the intersection of chimneys or other masonry construction with frame or stucco walls; ❑ Under and at the ends of masonry, wood or metal copings and sills; ❑ Continuously above all projecting wood trim; ❑ Where exterior porches, decks or stairs, attach to a wood frame wall or floor assembly; ❑ At wall and roof intersections; ❑ At built-in gutters.	R703.8
64.		**Weep screed.** Detail a corrosion-resistant weep screed at or below the plate line and at least 4" above finish grade and 2" above paved areas.	R703.6.2.1
65.		**Exterior insulation finish systems (EIFS).** All EIFS shall be installed in accordance with the applicable evaluation report, MAG One-Coat specifications and the manufacturer's installation instructions. EIFS shall terminate at least 6" above finish grade.	R703.9
66.		**Weather-resistive barrier.** All EIFS installations shall have a weather-resistive barrier between water-sensitive building components and the exterior insulation and a means of draining water to the exterior of the veneer. See sheathing paper and weep screed items above.	R703.2 R703.9.1
67.		**Stone and masonry veneer.** Install stone and masonry veneer over wood or steel framing in accordance with items at right. Veneer may not exceed 30 ft. in height, with an additional 8 ft. allowed on ends, and thickness may not exceed 5 inches. For veneers with current evaluation report approvals, provide 2 copies and install in accordance with evaluation report.	R703.7 Table R703.4 Figure R703.7
Roof-Ceiling Construction			**Chapter 8**
68.		**Ceiling joist and rafter spans.** Ceiling joist spans shall be in accordance with Tables R802.4(1) and R802.4(2). Rafter spans to be in accordance with Tables R802.5(1) through R802.5(8).	R802.4 R802.5
69.		**Attic ventilation.** Provide calculations for attic ventilation. Use 1 to 150 ratio for only lower or upper ventilation and 1:300 when at least 50% (but not more than 80%) of the ventilation is provided in the upper portion of the roof (at least 3 ft. above eave or cornice vents). Note and detail the type, location and size of attic vents.	R806
70.		**Attic access.** Provide minimum 22" X 30" attic access if attic exceeds 30 sq. ft. in area and 30" in height. Provide 30" of unobstructed headroom above the opening.	R807.1
Roof Assemblies			**Chapter 9**
71.		**Roof drains and scuppers.** Specify size, location and termination points. Use maximum rainfall rate of 3" per hour for sizing roof drains and scuppers. See International Plumbing Code (IPC) for additional requirements.	R903.4 IPC 1105, 1106
72.		**Type.** Indicate the type of roof covering material(s) and their weight in lbs./sq. ft. Provide evaluation report information where applicable.	R904
73.		**Application and attachment.** Roof covering materials shall be attached in accordance with applicable provisions of Section R905, the manufacturer's installation instructions or the requirements of applicable evaluation reports, including underlayment and flashing.	R905

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Chimneys and Fireplaces			Chapter 10
74.		**Pollution reduction.** All fireplaces must be either gas-fired (gas fireplace unit or permanently installed gas log) or wood-burning units that have been certified or tested and listed as meeting U.S. Environmental Protection Agency (EPA) air quality standards (40 CFR Part 60, Sub-part AAA). Please refer to Town of Fountain Hills Code, Article 7-3, for details.	TOFH Code, Article 7-3
75.		**Masonry fireplaces.** Detail masonry fireplaces, including supporting foundation, anchorage ties, reinforcement, flue size, flashing, hearth width and 2" clearance to combustible construction.	R1001 R1003 Figure R1003.1
76.		**Factory-built fireplaces.** All factory-built fireplaces shall be tested in accordance with UL 127. Provide the evaluation report number and 2 copies. Install in accordance with its listing, including clearances to combustible construction and required hearth dimensions.	R1004
77.		**Gas logs.** Show gas to fireplace, including piping material, size, length and Btuh input. Provide note stating that fireplace will have a permanent gas log set and that it will be installed in accordance with ANSI Z21.60 and the manufacturer's installation instructions, which are to be available at the time of inspection.	TOFH Code, Article 7-3-1 G2432
78.		**Exterior air supply.** Factory-built or masonry fireplaces shall be equipped with an exterior air supply to assure proper fuel combustion, including 1/4" mesh screen at termination.	R1005
79.		**Gas fireplaces in bedrooms.** Gas fireplaces, gas logs or other gas-fired appliances may not be installed in sleeping rooms or other locations unless they are specifically listed for such installations, or they are: ❑ Direct-vent appliances that obtain all combustion air directly from the outdoors. ❑ Gas fireplaces or gas logs for installation in wood-burning fireplaces where the room meets the minimum volume requirements of Section G2407.5.	G2406 G2407.5
Energy Efficiency (see also separate handout)			Chapter 11
80.		**IECC.** Residences with glazing amounts exceeding 15% (25% for townhouses) of gross exterior wall area must comply with Chapter 4 or 5 of the 2003 International Energy Conservation Code (IECC).	N1101.2 and N1102.1
81.		**Glazing u-factor.** Maximum allowable glazing U-factor is 0.75 (lower is better) if total glazed area does not exceed 15% of the gross exterior wall area (25% for townhouses). One percent (1%) of the total window area is exempt from U-Factor requirements.	N1101.2.1 N1102.3
82.		**Insulation values.** Minimum insulation values with glazing totaling no more than 15% of gross exterior wall area (25% for townhouses) are R-19 for ceilings, R-11 for walls, R-11 for floors and R-5 for crawl space walls. Provide full insulation at attic equipment platforms.	Table N1102.1
83.		**Air leakage.** All joints, seams, penetrations and other sources of air leakage through the building thermal envelope shall be caulked, gasketed, wrapped or otherwise sealed to limit uncontrolled air movement.	N1102.1.10
84.		**Solar heat gain coefficient.** All windows must bear a National Fenestration Rating Council (NFRC) sticker. Maximum allowable Solar Heat Gain Coefficient (SHGC) is 0.40 (lower is better).	N1102.2
85.		**Minimum equipment performance.** Performance of equipment listed in Table N1103.1 is covered by preemptive Federal law. Equipment not covered in the table shall meet Section 503.2 of the International Energy Conservation Code (IECC).	N1103.1 Table N1103.1 IECC 503.2
86.		**Duct insulation.** Ducts are to be insulated to an installed R-5 when located within the building but outside of conditioned space and R-8 when located outside of the building. All ducts are to be sealed in accordance with Section M1601.3.1.	N1103..3 N1103.4

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Mechanical			**Chapters 13-23**
87.		**Locations of equipment.** Show location and size of air conditioning and heating equipment and whether they are electric or gas-fired.	R106 M1304
88.		**Condensate lines.** Condensate drain lines are to provided, with a minimum size of 3/4" i.d. Where damage to building components will occur due to condensate overflow from drain pans or stoppage in condensate piping, an auxiliary or secondary drain system must be provided in accordance with M1411.3.1. Plastic condensate piping must be painted if exposed to sunlight. Show locations of termination points for drain lines.	M1411.3
89.		**Attic equipment access.** Equipment located in attics shall be provided with an access opening at least 22" X 30," a passageway 24" wide and no more than 20' long, a 30" X 30" minimum working platform, 30" minimum clear headroom and a receptacle and light. Trusses shall be designed to account for the additional load of attic-mounted equipment.	M1305.1.3
90.		**Dryer vent.** Clothes dryers are to be provided with an exhaust duct not to exceed 25 ft. in length. The maximum length allowed is reduced by 2.5 ft. for each 45-degree bend and 5 ft. for each 90-degree bend. See M1501 for details and M1501.1 and M1501.3 for exceptions. See also G2439 for gas-fired clothes dryers.	M1501 G2439
91.		**Exhaust fans.** Where toilet rooms and bathrooms are mechanically ventilated, the exhaust capacity shall be 50 cfm intermittent or 20 cfm continuous. Where domestic kitchen cooking appliances are equipped with ducted range hoods or down-draft exhaust systems, fans shall be sized to provide 100 cfm intermittent or 25 cfm continuous ventilation rates.	M1506 Table 1506.3
92.		**Combustion air.** Provide adequate combustion air for liquid and solid fuel-burning appliances in accordance with Chapter 17 (does not apply to fireplaces, fireplace stoves and direct-vent appliances).	M1701
Fuel Gas			**Chapter 24**
93.		**Prohibited locations.** Gas-fired appliances shall not be located in, or obtain combustion air from, sleeping rooms, bathrooms, toilet rooms or storage closets. See exceptions for direct vent appliances that obtain all combustion air directly from the outdoors or other situations.	G2406.2
94.		**Combustion air.** Provide adequate combustion air for gas-fired appliances.	G2407
95.		**Elevation of ignition source.** Gas appliances and equipment having an ignition source shall be elevated such that the source of ignition is 18" above the floor in hazardous locations or private garages. See exception for specifically listed equipment.	G2408.2
96.		**Equipment protection.** Appliances located in private garages shall be installed with a minimum clearance of 6 ft. above the floor OR be protected from motor vehicle impact and installed in accordance with G2408.2, the item immediately above.	G2408.3
97.		**Gas pipe sizing.** Provide a gas piping schematic for all gas appliances, including piping type, size, length and Btuh rating of all gas-fired equipment.	G2413
98.		**Makeup air.** When a gas-fired clothes dryer is located in a closet, a minimum opening of 100 square inches shall be provided in the door or makeup air shall be provided by other approved means.	G2439.4

No.	Sheet Number(s)	Description of Minimum Code Requirement	Code Reference
Plumbing			**Chapters 25-32**
99.		**Appliance and fixture locations.** Designate the location of the water heater, furnace, kitchen and laundry appliances and other fixtures. Provide access for service and removal.	R106
100.		**Materials evaluation and listing.** Specify piping materials.	P2608
		Pressure-Temperature relief valve lines. Water heaters or other appliances or equipment used for heating water or storing hot water shall be protected by relief valves as required by IRC Section 2803.1. Relief valve lines shall not be directly connected to the drainage system, but shall be piped full size to the floor, to the outside of the building or to an indirect waste receptor inside the building. See IRC Section P2803.6.1 for details.	P2803.6.1
101.		**Hose bibbs.** Hose bibbs are to be equipped with integral backflow preventers.	P2902.3.3
102.		**Sumps and ejectors.** Provide an engineered sump pump and ejector system if elevation of street is 6' or higher than finished floor elevation. Provide installation specifications from the manufacturer.	P3007
103.		**Backwater valves.** Fixtures with flood level rims located below the elevation of the next upstream manhole cover shall be protected from backflow of sewage by installing an approved backwater valve.	P3008
Electrical			**Chapters 33-42**
104.		**Electrical plan.** Provide an electrical plan indicating the receptacles, switches, lights, meter box and size, smoke detectors, exhaust fans, GFCI-protected receptacles, etc.	R106.1
105.		**Load calculation.** Provide electrical load calculation for all dwelling units over 3000 square feet (with a 200-amp service) or as deemed necessary by the Building Safety Department.	E3502
106.		**Service panel.** Indicate the size (rating) and location of the service entrance and any sub panels. Provide a minimum 30W" X 36D" working clearance at all panels and disconnects.	E3502 E3305.2
107.		**Sub-panels.** Sub-panels may not be located in bathrooms, clothes closets, or where they are exposed to physical damage (NEC 240.24).	E3605.7
108.		**Grounding.** A grounding electrode system shall be provided in accordance with NEC 250.50 or IRC E3508.	E3508
109.		**Bonding.** Provide bonding for water piping, gas and metal building systems (NEC 250.104).	E3509
110.		**Ranges.** Ranges (with a rating of 8.75 kVA or more) require a minimum 40-amp branch circuit (NEC 210.19(A)(3)).	E3602.9.1
111.		**Kitchen and dining area receptacles.** Two (2) or more 20-amp small appliance circuits are required in kitchens (NEC 210.11(C)(1)).	E3603.2
112.		**Laundry circuit.** A minimum of one 20-amp branch circuit is required to serve a laundry room or area and shall serve only outlets in that room or area (NEC 210.11(C)(2)).	E3603.3
113.		**Bathroom circuit.** A minimum of one 20-amp branch circuit is required to supply the bathroom receptacle outlets and shall have no other outlets. See exception (NEC 210.11(C)(3).	E3603.4
114.		**Wall receptacles.** Provide receptacle along walls (two or more feet in length) so that no point along the wall is more than 6 feet from an outlet (NEC 210.52(A)(1)).	E3801.2.1
115.		**Counter receptacles.** Receptacle outlets shall be installed at each counter space wider than twelve (12) inches so that no point along the counter space is further than 24" from an outlet (NEC 210.52(C)(1)).	E3801.4.1

No.	Sheet Number(s)	Description of Minimum Code Requirement	Code Reference
116.		**Island and peninsula counter spaces.** Provide at least one receptacle outlet at all island and peninsula counter spaces with long dimensions greater than 24" and short dimensions greater than 12 inches (NEC 210-52(C)(2) & (3)).	E3801.4.2 E3801.4.3
117.		**Outdoor outlets.** At least one moisture-resistant GFCI-protected receptacle outlet accessible at grade level shall be installed on the exterior at both the front and back of each dwelling unit (NEC 210.52(E).	E3801.7
118.		**Hallways.** Provide a receptacle in hallways greater than 10 ft. in length (NEC 210.52(H).	E3801.10
119.		**HVAC outlet.** Provide a receptacle for the servicing of heating, air-conditioning and refrigeration equipment on the same level and within 25' of the equipment (NEC 210.63).	E3801.11
120.		**GFCI protection.** Identify on plans that all receptacle outlets in bathrooms (one adjacent to each basin), garages, at kitchen countertop surfaces, outdoors, and within six (6) feet of bar sinks must be GFCI protected (NEC 210.8). See E3802 for additional details and exceptions.	E3802
121.		**Arc-fault circuit interrupters, bedroom outlets.** Provide arc-fault circuit interrupter protection for all branch circuits that supply 125-volt, single-phase, 15- and 20-ampere outlets in bedrooms (NEC 210.12(B).	E3802.11
122.		**Lighting outlets.** Designate the location of all required light fixtures (NEC 210.70), including at least one switch-controlled light fixture in every habitable room and bathroom. In other than kitchens and bathrooms, one or more receptacle outlets controlled by a wall switch may be used.	E3803.2
123.		**Additional locations.** Show at least one wall switch-controlled lighting outlet in hallways, stairways and attached garages; and to provide illumination on the exterior side of each outdoor egress door having grade level access (NEC 210.70(A)(2). At interior stairways with 6 or more risers, there shall be a wall switch at each level.	E3803.3
124.		**Disconnecting means.** Provide a disconnect near and in sight of mechanical equipment, including air conditioning condensing units and heat pump units (NEC 422, 424, 440.14).	E4001.5 Table E4001.5
125.		**Hydromassage bathtubs.** Provide GFCI-protected outlet for hydromassage tub and show access door for servicing motor. Bonding is to be as per E4109.4 (NEC 680.74).	E4109

ADDITIONAL CORRECTIONS OR NOTES:

SEE ALSO "REDLINED" NOTES ON PLANS